73. [RENUMBERED AND AMENDED] The method of claim 71 wherein the stem cell factor polypeptide is selected from the group consisting of amino acids 1-100, 1-110, 1-120, 1-123, 1-127, 1-130, 1-133, 1-137, 1-141, 1-145, 1-148, 1-152, 1-156, 1-157, 1-158, 1-159, 1-160, 1-161, 1-163, 1-166, 1-168, 1-173, 1-178, 2-164, 2-165, 5-164, 11-164, 1-180, 1-183, 1-185, 1-188, 1-189, 1-220, and 1-248 as set out in SEQ ID NO: 61, said polypeptide optionally consisting of an N-terminal methionine.

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74. [RENUMBERED AND AMENDED] The method of claim 71 wherein the stem cell factor polypeptide is selected from the group consisting of amino acids 1-152, 1-157, 1-160, 1-161, and 1-220 as set out in SEQ ID NO: 63, said polypeptide optionally consisting of an N-terminal methionine.

75. [RENUMBERED] A method of treating a pigmentation disorder in a human, the method comprising the step of administering to the human, a therapeutically effective amount of a stem cell factor (SCF) polypeptide and optionally a pharmaceutically acceptable carrier.

76. [RENUMBERED AND AMENDED] The method of claim 75 wherein the stem cell factor polypeptide is selected from the group consisting of amino acids 1-162, 1-164, and 1-165 as set out in SEQ ID NO: 46, said polypeptide optionally consisting of an N-terminal methionine.

77. [RENUMBERED AND AMENDED] The method of claim 75 wherein the stem cell factor polypeptide is selected from the group consisting of amino acids 1-100, 1-110, 1-120, 1-123, 1-127, 1-130, 1-133, 1-137, 1-141, 1-145, 1-148, 1-152, 1-156, 1-157, 1-158, 1-159, 1-160, 1-161, 1-163, 1-166, 1-168, 1-173, 1-178, 2-164, 2-165, 5-164, 11-164, 1-180, 1-183, 1-185, 1-188, 1-189, 1-220, and 1-248 as set out in SEQ ID NO: 61, said polypeptide optionally consisting of an N-terminal methionine.

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78. [RENUMBERED AND AMENDED] The method of claim 75 wherein the stem cell factor polypeptide is selected from the group consisting of amino acids 1-152, 1-157, 1-160, 1-161, and 1-220 as set out in SEQ ID NO: 63, said polypeptide optionally consisting of an N-terminal methionine.

79. [RENUMBERED AND AMENDED] The method of claim 71 or 75 wherein the stem cell factor is covalently conjugated to a water soluble polymer.

80. [RENUMBERED AND AMENDED] The method of claim 79 wherein the water soluble polymer is polyethylene glycol.

81. [RENUMBERED AND AMENDED] The method of claim 71 or 75 wherein the stem cell factor is co administered with at least one other cytokine.

82. [RENUMBERED AND AMENDED] The method of claim 79 wherein the stem cell factor is co administered with at least one other cytokine.

83. [RENUMBERED AND AMENDED] The method of claim 81 wherein one or more cytokines are selected from a group consisting of Interleukin-1 (IL-1), Interleukin-2 (IL-2), Interleukin-3 (IL-3), Interleukin-4 (IL-4), Interleukin-5 (IL-5), Interleukin-6 (IL-6), Interleukin-7 (IL-7), Interleukin-8 (IL-8), Interleukin-9 (IL-9), Interleukin-10 (IL-10), Interleukin-11 (IL-11), Interleukin-12 (IL-12), erythropoietin (EPO), Granulocyte Colony-stimulating Growth Factor (G-CSF), Macrophage Colony-Stimulating Factor (M-CSF), Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF), Insulin-like Growth Factor-1 (IGF-1), and Leukemic Inhibitory Factor (LIF).

84. [RENUMBERED AND AMENDED] The method of claim 82 wherein one or more cytokines are selected from a group consisting of IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, EPO, G-CSF, M-CSF, GM-CSF, IGF-1, and LIF.

85. [RENUMBERED AND AMENDED] The method of claim 71 wherein the pharmaceutically acceptable carrier is suitable for topical delivery.

86. [RENUMBERED AND AMENDED] The method of claim 71 wherein the pharmaceutically acceptable carrier is suitable for oral delivery.

87. [RENUMBERED AND AMENDED] The method of claim 71 wherein the pharmaceutically acceptable carrier is suitable for parenteral delivery.

88. [RENUMBERED AND AMENDED] The method of claim 71 wherein the pharmaceutically acceptable carrier is suitable for pulmonary delivery.

89. [RENUMBERED AND AMENDED] The method of claim 71 wherein the pharmaceutically acceptable carrier is suitable for nasal delivery.

90. [RENUMBERED AND AMENDED] The method of claim 75 wherein the pharmaceutically acceptable carrier is suitable for topical delivery.

91. [RENUMBERED AND AMENDED] The method of claim 75 wherein the pharmaceutically acceptable carrier is suitable for oral delivery.

92. [RENUMBERED AND AMENDED] The method of claim 75 wherein the pharmaceutically acceptable carrier is suitable for parenteral delivery.

93. [RENUMBERED AND AMENDED] The method of claim 75 wherein the pharmaceutically acceptable carrier is suitable for pulmonary delivery.

94. [RENUMBERED AND AMENDED] The method of claim 75 wherein the pharmaceutically acceptable carrier is suitable for nasal delivery.

95. [RENUMBERED AND AMENDED] The method of claim 75 wherein the pigmentation disorder is melanocytopenia.

96. [RENUMBERED AND AMENDED] The method of claim 75 wherein the melanocytopenia is selected from the group consisting of vitilago and piebaldism.